

Service Manual

**FM/AM/FM STEREO WITH QUARTZ SYNTHESIZER
AND CASSETTE TAPE DECK**

**Stereo Music Centre
SG-65**



AMPLIFIER SECTION

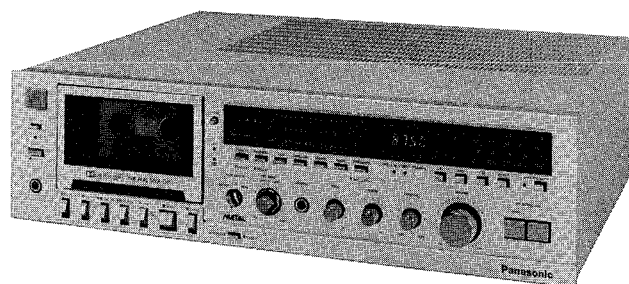
Power Output	MPO 60W x 2 (THD 1%, 4Ω) RMS 49W x 2 (THD 1%, 4Ω) One channel driven RMS 35W x 2 (THD 0.08%, 4Ω) Both channels driven
Frequency Response	12Hz~20kHz, ± 1.5 dB (DIN)
Power Band Width	10Hz~80kHz, -3dB (DIN) (THD 1%, 4Ω) 10Hz~30kHz, -3 dB (DIN) (THD 0.5%, 4Ω)
Input Sensitivity & Impedance:	
Mic	1mV, 3 kΩ
Aux	150mV, 47 kΩ
Phono	2.5mV, 47 kΩ
Rec Out & Impedance	150mV, 2.2 kΩ
Tone Controls	
Bass	± 12 dB at 50Hz
Treble	± 10 dB at 15kHz
Loudness Control	+10dB at 50Hz (Volume at -30dB position)

FM TUNER SECTION

Tuning System	Quartz Synthesizer
Frequency Range	87.5MHz~108MHz
Intermediate Frequency (IF)	10.7MHz
Sensitivity	1.9μV (S/N 26dB mod. 40kHz) (DIN) at 300Ω 1.4μV (S/N 26dB mod. 40kHz) (DIN) at 75Ω 2.3μV (IHF) at 300Ω, 1.5μV (IHF) at 75Ω
Image Ratio	50dB (98MHz)
Signal/Noise Ratio	65dB (at 1kHz, 60dB, 40kHz)
Distortion	MONO : 0.15% (at 1kHz, 60dB, 40kHz) STEREO : 0.3% (at 1kHz, 60dB, 40kHz)
Stereo Separation	45dB (at 1kHz, 60dB, 40kHz) 35dB (at 250Hz~6.3kHz, 60dB, 40kHz)(DIN) 30dB (at 6.3kHz~10kHz, 60dB, 40kHz)(DIN)
Selectivity	70dB (at 1kHz, 60dB, 40kHz)

AM TUNER SECTION

Frequency Range	MW : 525kHz~1605kHz (571m~187m) LW : 150kHz~350kHz (2000m~857m)
Intermediate Frequency (IF)	450kHz
Sensitivity	MW : 100μV/m (1MHz) LW : 250μV/m (240kHz)
Image Ratio	MW : 50dB (1MHz) LW : 38dB (240kHz)



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*Noise reduction system manufactured under license from Dolby Laboratories.

TAPE DECK SECTION

Deck System	Full Auto Shut Off Cassette System
Track System	4-Track, 2-Channel
Recording System	AC Bias (50kHz) with Dolby NR System
Erasing System	AC Erase (50kHz)
Tape Speed	4.75cm/sec. (1-7/8 i.p.s.)
Frequency Response	20Hz~15kHz (Normal) 20Hz~16kHz (CrO ₂) 20Hz~17kHz (Metal)
Signal/Noise Ratio	DOLBY NR-OUT 53dB (Normal) } (DIN) 55dB (CrO ₂) } 57dB (Metal) } DOLBY NR-IN 61dB (Normal) } (10dB or more im- 63dB (CrO ₂) } proved at more 65dB (Metal) } than 5kHz)(DIN)
Erase Ratio	70dB (DIN)
Channel Separation	40dB (DIN) 50dB (at 1kHz)
Cross Talk	60dB (DIN)
Wow & Flutter	0.05% (WRMS), ± 0.15 % (DIN-WTD)

POWER CONSUMPTION 260W

POWER SUPPLY AC 110V, 120V, 220V, 240V,
50/60Hz

DIMENSIONS (W x H x D) 430 x 124 x 372mm

WEIGHT 9.5kg

*Specifications are subject to change without notice for further improvement.

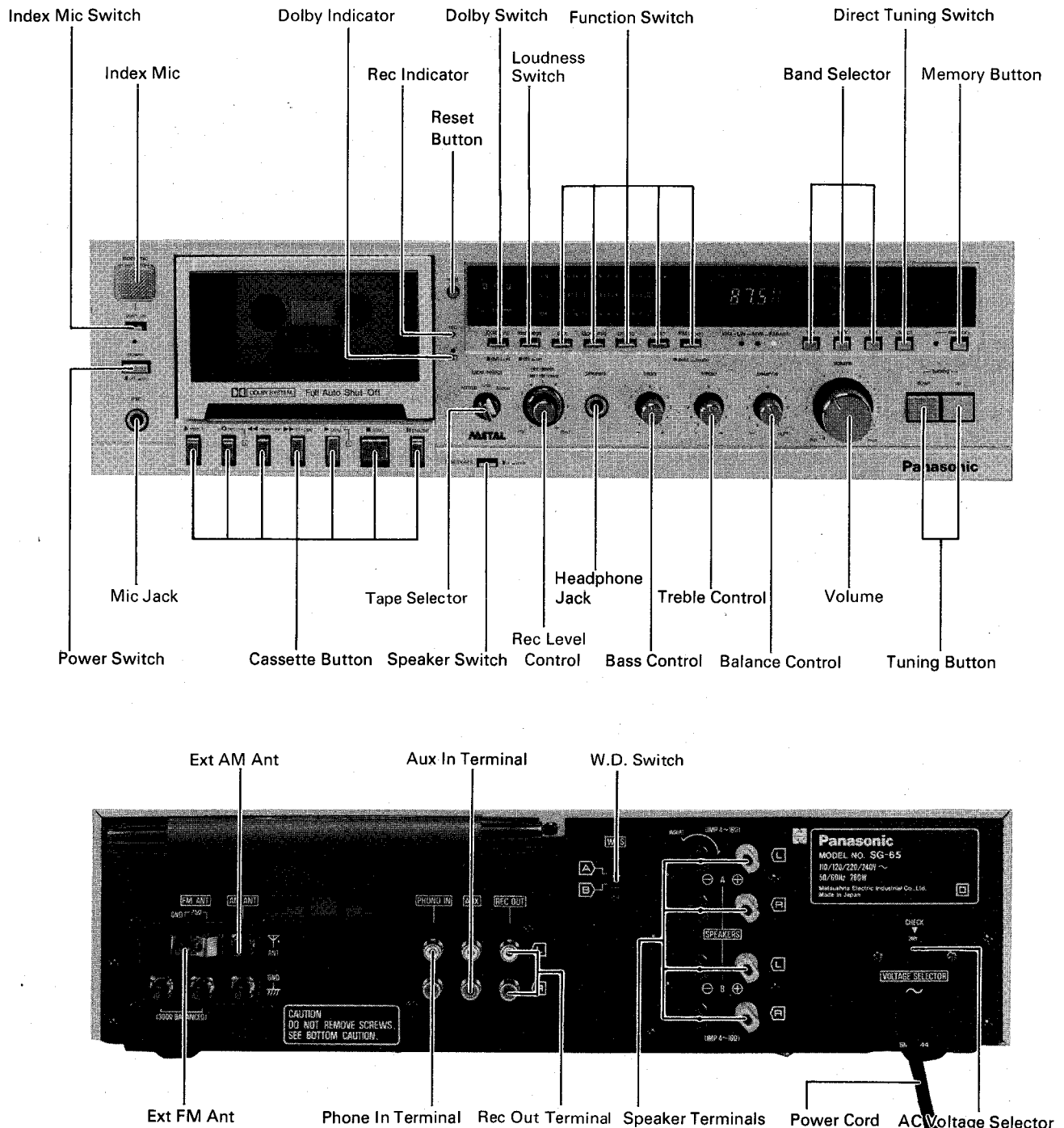
Panasonic

Matsushita Electric Trading Co., Ltd.
P. O. Box 288, Central Osaka, Japan

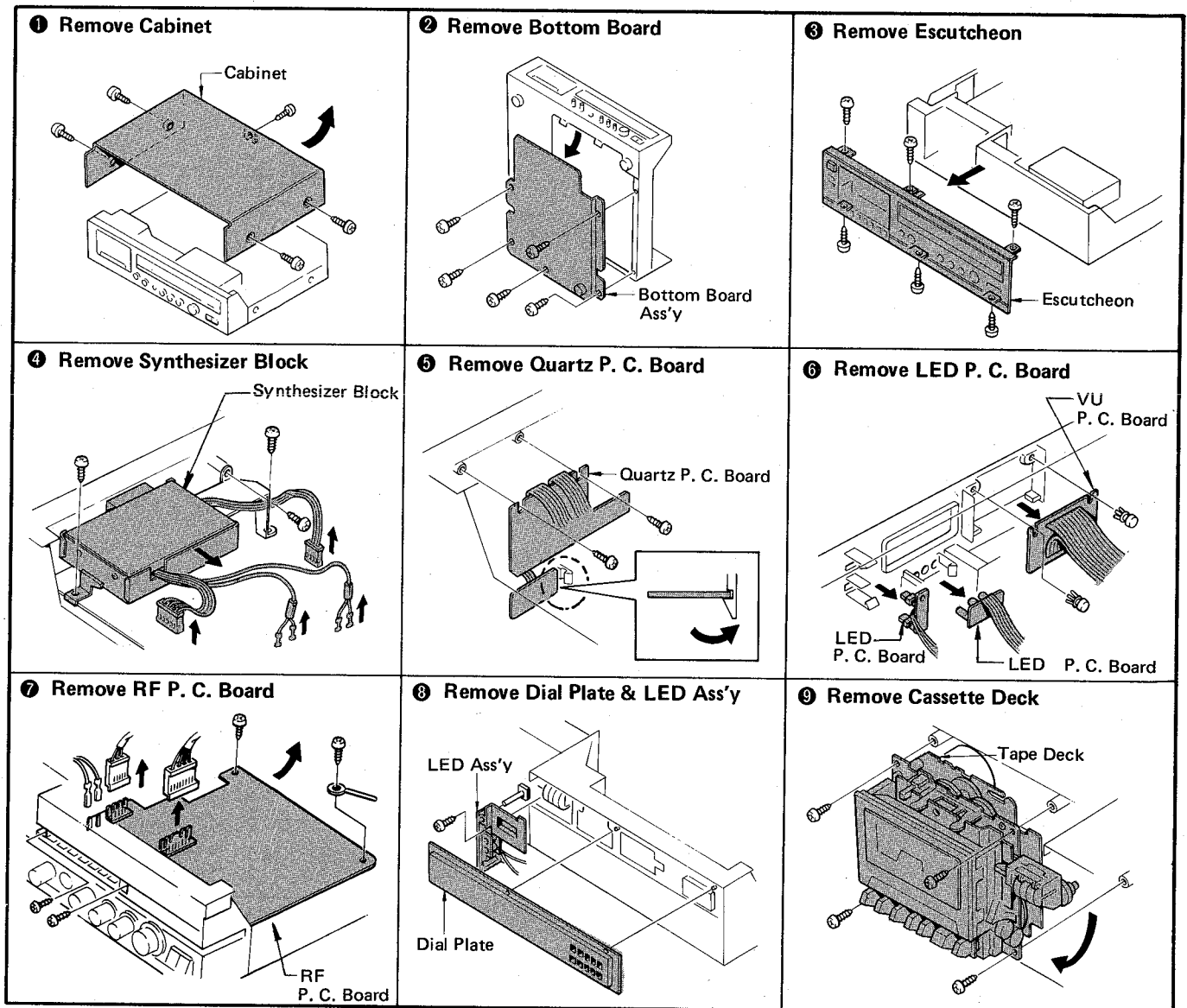
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LOCATION OF CONTROLS



DISASSEMBLY INSTRUCTIONS



■ To Replace Parts on P. C. Board:

RF P. C. Board Refer to 1, 2, 4 ~ 7 .

AF P. C. Board Refer to 1, 2, 4 ~ 7 .

Synthesizer Block Refer to 1, 4, 5 .

■ To Replace Escutcheon Refer to 1, 3 .

■ To Remove Tape Deck Refer to 1, 3, 8, 9 .

■ AM Alignment **ALIGNMENT INSTRUCTIONS (RADIO-1)**

Control Positions:

1. Volume Control Maximum (AM-IF and RF, FM-RF), FM-RF (Center), Minimum (FM-IF)
2. Band Selector LW, MW, FM and Direct
3. Radio Switch ON
4. Loudness OFF
5. FM Mode Switch FM MONO and FM AUTO
6. Speaker Switch A
7. Output of signal generator should be no higher than necessary to obtain output reading.
8. Make certain that speaker system is connected to the receiver when aligning.
(or use 4Ω dummy load resistors.)

STEP	SIGNAL GENERATOR OR SWEEP GENERATOR		DISPLAY	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
AM-IF AND RF ALIGNMENT						
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	450 kHz 30% Mod. with 400 Hz	Point of non-interference	Output meter across speaker jack (L). (Imp. 4Ω).	T203 (1st IFT) T204 (2nd IFT) T205 (3rd IFT)	Adjust for maximum output.
2 (LW)		137 kHz 30% Mod. with 400 Hz	137 kHz		L103 (LW OSC Coil)	Set CT102 and CT104 to center position. Adjust for maximum output.
3 (LW)		150 kHz 30% Mod. with 400 Hz	150 kHz		L2 (LW ANT Coil)	Adjust for maximum output by sliding coil L2 along ferrite core. Refer to NOTE .
4 (LW)		350 kHz 30% Mod. with 400 Hz	350 kHz		CT102 (LW ANT Trimmer)	Adjust for maximum output. Repeat steps (2) and (3).
5 (LW)		no signal	137 kHz	Connect DC VTVM between TP103 and TP104 (Earth).	L103 (LW OSC Coil)	Adjust L103 for 1V on VTVM reading only if TP103 is less than 1V (on VTVM reading).
		no signal	350 kHz		CT104 (LW OSC Trimmer)	Adjust CT104 for 9V on VTVM reading only if TP103 more than 9V (on VTVM reading). Repeat steps (2), (3) and (4).
6 (MW)		520 kHz 30% Mod. with 400 Hz	520 kHz	Output meter across speaker jack (L). (Imp. 4Ω).	L102 (MW OSC Coil)	Set CT101 and CT103 to center position. Adjust for maximum output.
7 (MW)		550 kHz 30% Mod. with 400 Hz	550 kHz		L1 (MW ANT Coil)	Adjust for maximum output by sliding coil L1 along ferrite core. Refer to NOTE .
8 (MW)		1500 kHz 30% Mod. with 400 Hz	1500 kHz		CT101 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (7) and (8).
9 (MW)		no signal	520 kHz	Connect DC VTVM between TP103 and TP104 (Earth).	L102 (MW OSC Coil)	Adjust L102 for 1V on VTVM reading only if TP103 is less than 1V (on VTVM reading).
		no signal	1500 kHz		CT103 (MW OSC Trimmer)	Adjust CT103 for 9V on VTVM reading only if TP103 more than 9V (on VTVM reading). Repeat steps (6), (7) and (8).

NOTE: Cement antenna coil (L1 and L2) with wax after completing alignment.

FM-IF ALIGNMENT

1	High side through 1 pF between point TP101 and TPE (Earth).	10.7 MHz (400 kHz SWP).	Point of non-interference	Connect vert. amp input of scope between point TP206 and TP204 (Earth)	L3 (FM Tuner Pack)	Adjust L3 for maximum amplitude and symmetrical curve. 
2	No connection	no signal	Free	Connect DC VTVM between TP201 and TP202	T201 (FM Disc)	Adjust T201 for 0 mV on VTVM reading.

NOTE: As three output readings will be present, adjustments must be made at center frequency.

ALIGNMENT INSTRUCTIONS (RADIO-2)

FM-RF ALIGNMENT

STEP	SIGNAL GENERATOR		DISPLAY	INDICATOR (VTVM or SCOPE)	FM MODE SWITCH	ADJUST	REMARKS
	CONNECTION	FREQUENCY					
FM MONO DISTORTION ALIGNMENT							
1	Connect to EXT. FM antenna terminal through dummy antenna.	98 MHz 100% Mod. with 400 Hz	98 MHz	Distortion meter to speaker jack (L). (Imp. 4Ω).	MONO	T202 (FM Disc)	Adjust for minimum distortion meter indication.

FM Stereo Alignment

FREE RUN ALIGNMENT				
EQUIPMENT CONNECTION			ADJUST	REMARKS
Connect frequency counter to TP301 and TP302 (Earth) at 98 MHz, non modulation with 60 dB input.			VR302	Adjust VR302 for 19 kHz $\pm$ 50Hz on frequency counter reading.
SEPARATION ALIGNMENT				
Notes: 1. Stereo Modulator: Connect Stereo Modulator to EXT. Mod. terminal of signal generator. 2. Signal Generator: Modulation Rate of 19 kHz Pilot Signal 9% Modulation Rate of Right and Left Signal . . . 30% (1 kHz) Output Level 60 dB 3. Tuner (Balance Control): Adjust balance control so that output level from both channels becomes equal.				
EQUIPMENT CONNECTION			ADJUST	REMARKS
SIGNAL GENERATOR	VTVM	OSCILLOSCOPE		
Connect to EXT. FM antenna terminal through dummy antenna.	Connect across speaker jack. (Imp. 4Ω).	Connect vertical amp. input of scope to terminals of VTVM.	VR301 (Separation Control)	Adjust VR301 for minimum indication of VTVM from the left side output when the right side of stereo modulation is modulated. Adjust VR301 in the same way for the right side. Adjust for best balance between "L to R" and "R to L" separation.
Note: When aligning separation, disconnect frequency counter.				

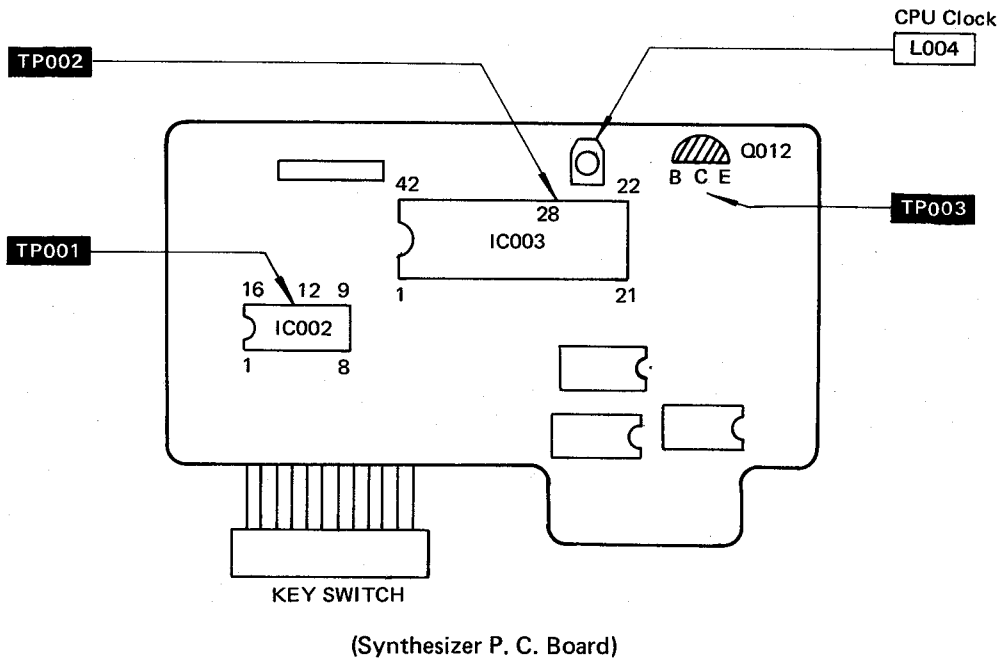
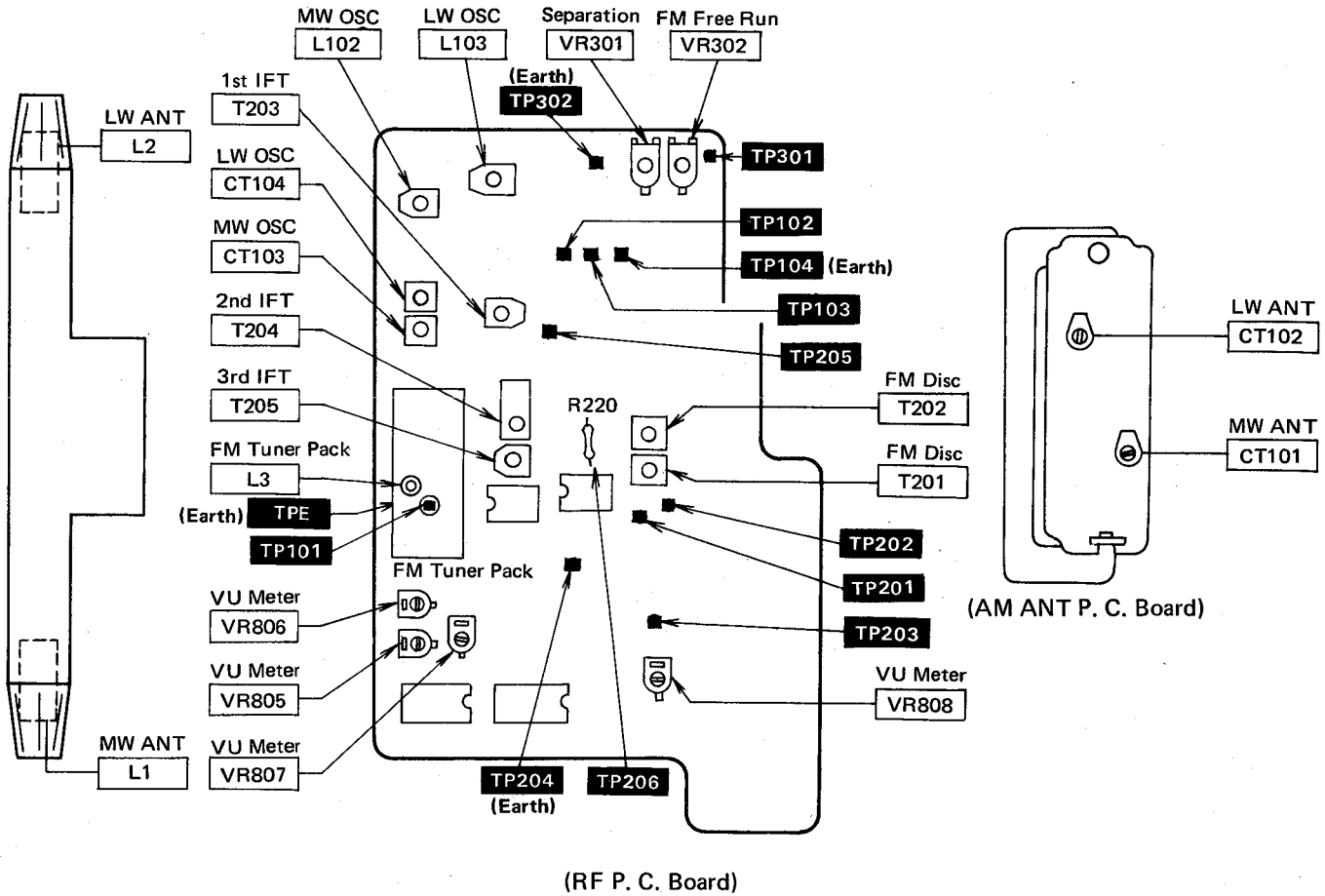
VU METER ALIGNMENT

STEP	VTVM CONNECTION		TAPE DECK CONDITION	DOLBY NR SWITCH	ADJUST	REMARKS
	Positive	Negative				
1	TP803	TP805	Recording	IN	REC Volume	• Apply 150 mV, 1 kHz to AUX. • Adjust Rec Volume to get 580 mV reading on VTVM.
2	TP804			IN	VR807 VR808	• Adjust VR807 and VR808 to light at +2VU ( mark).
3	No connection	No connection		IN	VR805 VR806	• Attenuate the applied signal by -20dB, then adjust VR805 and VR806 to light at -18 VU. • Repeat Steps 2 and 3.

SYNTHESIZER ALIGNMENT

SYNTHESIZER ALIGNMENT					
STEP	ALIGNMENT ITEM	COUNTER CONNECTION		ADJUST	REMARKS
		Positive	Negative		
1	PLL Standard OSC	TP001 (pin 12 of IC002)	Shield Case	—	• Connect frequency counter between TP001 and shield case. • Confirm that the frequency is 100 kHz $\pm$ 0.9 Hz.
2	CPU Clock Frequency	TP002 (pin 28 of IC003)	"	L004	• Connect frequency counter between TP002 and shield case. • Confirm that the frequency is 150 kHz $\sim$ 200 kHz, and adjust L004 to count 200 kHz when the frequency is beyond 200kHz.
		TP003 (Q012 collector)	"	—	• Connect frequency counter between TP003 and shield case. • Confirm that the frequency is 250 Hz $\sim$ 300 Hz.
3	FM Frequency Band Width				• Confirm that the frequency display becomes "108.00" MHz by calling "87.5" MHz and pushing "DOWN" key SW once.
					• Confirm that the frequency display becomes "87.5" MHz by calling "108.00" MHz and pushing "UP" key SW once.
					• Confirm that the frequency display becomes "000.00—turn on and off—error display " by calling the other frequencies beside "87.5" MHz " $\sim$ "108.00" MHz.

ALIGNMENT POINTS (RADIO)



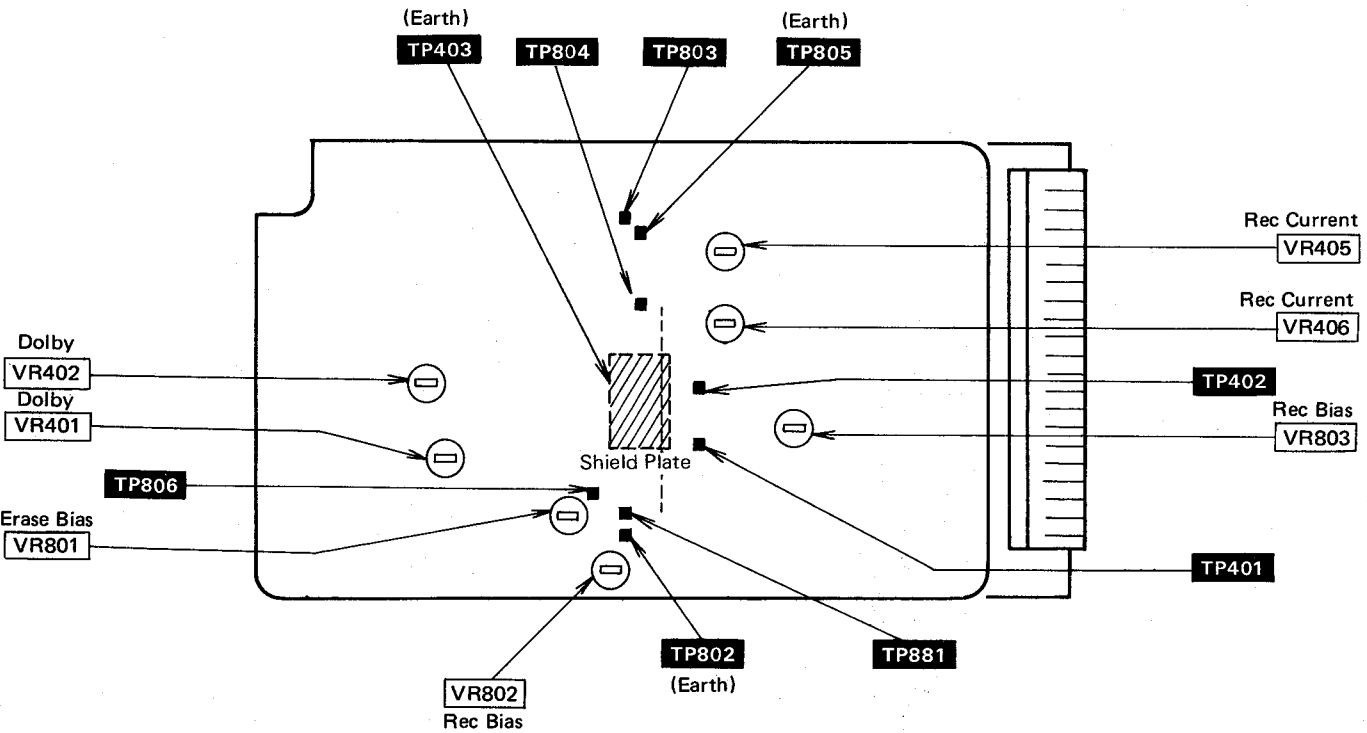
ALIGNMENT INSTRUCTIONS (CASSETTE TAPE DECK)

■CASSETTE TAPE DECK ALIGNMENT

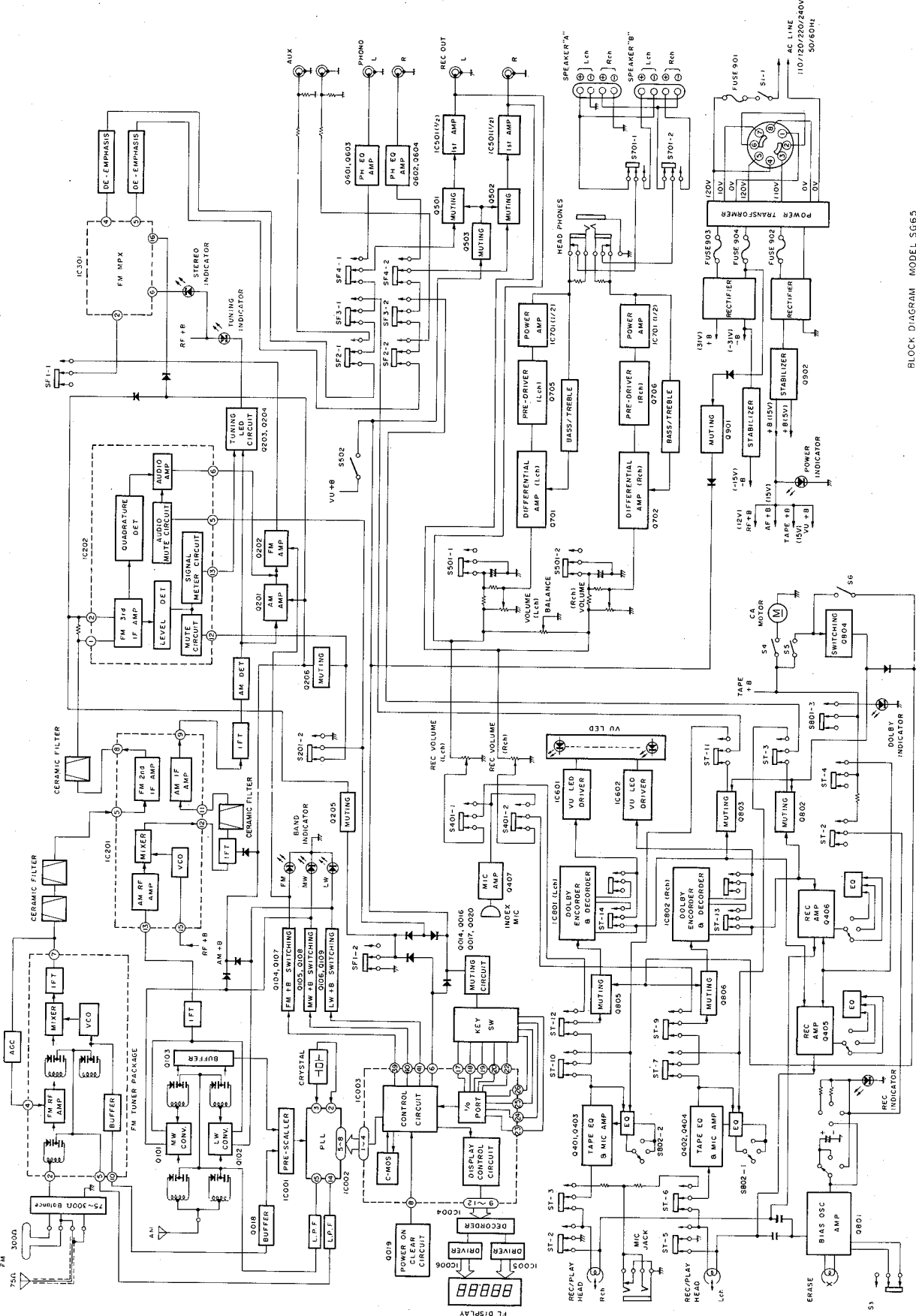
BIAS ALIGNMENT						
Control Positions:		1. Tape Deck Condition Recording Condition 2. Dolby Switch OUT				
STEP	ALIGNMENT ITEM	VTVM CONNECTION		TAPE SELECTOR	ADJUST	REMARKS
		Positive	Negative			
1	Erase Bias	TP801	TP802	METAL	VR801	Adjust VR802 and VR803 center. Adjust VR801 to get 140 ~ 150 mV reading on VTVM.
2	Recording Bias	TP401 (L ch) TP402 (R ch)	TP403	NORMAL	VR802	Adjust VR802 to get 3.8 mV reading on VTVM. (METAL: 9.4 ±0.4mV)
3	Recording Bias	TP401 (L ch) TP402 (R ch)	TP403	METAL	VR803	Adjust VR803 to get within 0.3 mV difference reading on both VTVM.

AZIMUTH, DOLBY, REC CURRENT ALIGNMENT						
Control Positions:		1. Tape Deck Condition PLAY Condition 2. Tape Selector NORMAL				
STEP	ALIGNMENT ITEM	VTVM CONNECTION		TEST TAPE	DOLBY SWITCH	REMARKS
		Positive	Negative			
1	R/P Head Azimuth	Speaker Terminal	Speaker Terminal	VTT653 (10kHz)	OUT	Head Screw Adjust screw for max. indication on VTVM.
2	Dolby Level	TP803 TP804	TP805	VTT6130	IN	VR401 VR402 Adjust VR401 and VR402 for 580 ±20 mV reading on VTVM.
3	Rec Current	TP401 (L ch) TP402 (R ch)	TP403			VR405 VR406 Connect TP802 to TP806. Apply 1 kHz, 150 mV to AUX IN and adjust Rec level volume at Dolby level. Adjust VR405 and VR406 for 0.46 ±0.02 mV reading on VTVM.

ALIGNMENT POINTS(CASSETTE TAPE DECK)



BLOCK DIAGRAM



REPLACEMENT PART LIST

NOTE:

1. Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
2. Parts No. listed in this Parts List are of Service Parts.

Ref. No.	Part No.	Description	Per Set (pcs.)
TRANSISTORS			
Q001, 002	2SC945L	LPF	2
Q003, 004	2SC945L	LPF	2
Q005, 006	2SC945L	Switching	2
Q007, 008	2SC945L	Switching	2
Q009, 010	2SC945L	Switching	2
Q011	2SA666AI-R	Switching	1
Q012, 013	2SC945L	Flip-Flop	2
Q014, 015	2SC945L	Switching, DC Amp	2
Q016, 017	2SC945L	Switching	2
Q018	2SC1675	FM Buffer Amp	1
Q019	2SC945L	Switching	1
Q020	2SA733	Switching	1
Q021	2SC945L	Switching	1
Q101, 102	2SC2000	AM COV	2
Q103	2SC2000	AM Buffer Amp	1
Q104, 105	2SC945L	Switching	2
Q106	2SC945L	Switching	1
Q107	2SA666AI-R	Switching	1
Q108, 109	2SA733A	Switching	2
Q201	2SC945L	AM Amp	1
Q202	2SC1844	FM Amp	1
Q203	2SC945L	Switching	1
Q204, 205	2SA666AI-R	Switching, Muting	2
Q206	2SC1328-T	Muting	1
Q401, 402	2SC1328-T	EQ/Mic Amp	2
Q403, 404	2SC1328-T	EQ/Mic Amp	2
Q405, 406	2SC1684-R	Rec Amp	2
Q407	2SA733A	Index Mic Amp	1
Q501, 502	2SC1684-R	Muting	2
Q503	2SA666AI-R	Muting	1
Q601, 602	2SC1328-T	PH/EQ Amp	2
Q603, 604	2SC1328-T	PH/EQ Amp	2
Q701, 702	2SA798AFG	Differential Amp	2
Q703, 704	2SC1328-T	Current Mirror	2
Q705, 706	2SC1844	Pre Drive	2
Q801	2SC1383NC-Q	Bias Amp	1
Q802, 803	2SC1684-R	Muting	2
Q804	2SC1328-T	Switching	1
Q805, 806	2SC945L	Muting	2
Q901	2SC945L	Muting	1
Q902	2SD836LS	Stabilizer	1

Ref. No.	Part No.	Description	Per Set (pcs.)
INTEGRATED CIRCUITS			
IC001	TD6102P	Pre Scaler	1
IC002	TC9125P	PLL	1
IC003	TC9129P	Controller	1
IC004	TC4511BP	Decoder	1
IC005, 006	TC5064BP	LED Drive	2
IC201	AN217P	AM/FM IF Amp	1
IC202	UPC1167C	FM IF Amp & DET	1
IC301	LA3350S	FM MPX Amp	1
IC501	AN6552F	AF 1st Amp	1
IC701	STK2029K	Power Amp	1
IC801, 802	NE646BN	Dolby Amp	2
IC803, 804	BA682A	VU Driver	2
DIODES			
D1 Δ	S5VB20F2	Rect	1
D01, 02	20A90	Switching	2
D03	LN21RCPHL	Power IND	1
D001, 002	MA161	Switching	2
D003, 004	MA161	Switching	2
D005	MA161	Switching	1
D006	MA161	Switching	1
D007	MA161	Switching	1
D008	MA161	Switching	1
D011	MA161	Switching	1
D012	MA1091	Stabilizer	1
D013	MA161	Switching	1
D014	LN21RCPHL	Memory Ind	1
D015, 016	MA161	Switching	2
D017	MA161	Switching	1
D019	MA161	Switching	1
D020	MA161	Switching	1
D101, 102	1SS91-G	Switching	2
D103	1SV100MW	Stabilizer	1
D104	1SV100LW	Stabilizer	1
D105	1SV100MW	Stabilizer	1
D106	1SV100LW	Stabilizer	1
D107, 108	MA161	Switching	2
D201	MA161	Switching	1
D202	20A90	Switching	1
D203	20A90	AM. D. AGC	1
D204, 205	20A90	AM Det, AM Rect	2
D206	MA27A2	AM AOC	1
D207	MA161	Switching	1
D208	SLP253B	Tuning Ind.	1
D209	MA161	Switching	1
D211, 212	MA161	Switching	2
D301	MA161	Switching	1
D302	SLP153B	Stereo Ind.	1

REPLACEMENT PART LIST

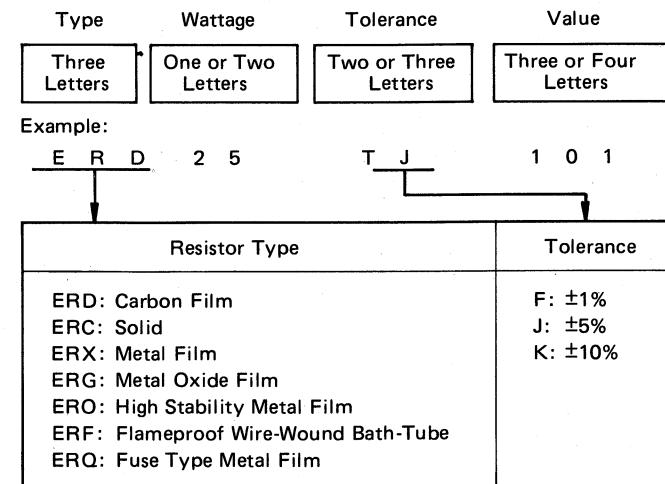
Ref. No.	Description	Part No.	Per Set (pcs.)
D701, 702	MA27A2	AOC	2
D703	MA1130	Stabilizer	1
D801	LN21RCPHL	Rec. Ind.	1
D802	LN41YCPHL	Dolby Ind.	1
D803	MA161	Switching	1
D805, 806	LN31GCPHL	Band Ind.	2
D807	LN31GCPHL	Band Ind.	1
D808	LN24144	LED VU Meter	1
D901 Δ	S1RBA10F	Rect	1
D902	MA1150A	Stabilizer	1
D903, 904	MA161	Switching	2
D906, 907	RD7.5FB	Stabilizer	2
D908	RD6.2FB	Stabilizer	1
D910	MA161	Switching	1
FL001	RAD5BT11	Display	1
THERMISTER			
TH801	ERTD2FHK202S	Thermister	1
FUSES			
F901 Δ	XBA2C20TR0	Fuse 250V T2A	1
F902 Δ	XBA2C12TR0	Fuse 250V T1.25A	1
F903, 904 Δ	XBA2C50TR0	Fuse 250V T5A	2
COILS AND TRANSFORMERS			
L1, 2	SLF6E4-0	Ant, Coil, MW, LW	2
L001	SLQY25S20	Choke Coil	1
L002	SLQZ101-2D	Trap Coil	1
L003	RLQY15G5-0	RFC Coil	1
L004	RLI2M402	OSC Coil	1
L101	RLQY30S1-0	RFC Coil	1
L102	SL02M6-M	OSC Coil, MW	1
L103	SL01M8-M	OSC Coil, LW	1
L201	SLQZ101-2D	Trap Coil	1
L301, 302	SLM9Z12-M	MPX Filter	2
L401, 402	SLQU222-2Y	Rec. EQ Coil	2
L403, 404	ELQ393D599G	Trap Coil	2
L405, 406	RLQY15G5-0	RFC Coil	2
L701, 702	SLQY80S-20	Sp. Coil	2
L801	SL09Z38-K	OSC Coil	1
L802, 803	SLQU270-2K	RFC Coil	2
L804, 805	ELQ393D599G	Trap Coil	2
T1 Δ	SLT5Z14-W	Power Trans.	1
T001 Δ	SLT5E4-V	Converter Trans.	1
T201	SLI4C512-K	Disc Coil, FM	1
T202	SLI4C514-K	Disc Coil, FM	1
T203	SLI2M102-M	1st IFT, AM	1
T204	SLI7W104-M	CFT, AM	1
T205	RLI2M402	OSC Coil	1
CF201, 202	SVF107MA53A	Ceramic Filter, FM	2
CF203	SVF107MA53A	Ceramic Filter, FM	1

Ref. No.	Description	Part No.	Per Set (pcs.)
COMPONENT COMBINATIONS			
Z001	EXBP86104K	R-R	1
Z002	EXBP87104K	R-R	1
Z201	EXF3SL04C	C-C	1
Z202	EXAF203Z471F	C-R	1
Z203	EXF3SL04C	C-C	1
Z405, 406	EXRP472P682S	C-R	2
Z701, 702	EXRP331K333S	C-R	2
Z801, 802	EXRP222K332C	C-R	2
Z901, 902	RXAF103Z22E	C-C	2
Z903, 904	RXAF103Z22E	C-C	2
VARIABLE RESISTORS			
VR301	EVTS3MA00B13	Preset 1k Ω B	1
VR302	EVTS6AA00B53	Preset 5k Ω B	1
VR401, 402	EVTS3MA00B24	Preset 20k Ω B	2
VR403, 404	EWKANAF27B54	Rec. Volume 50k Ω B	1
VR405, 406	EVTS3MA00B14	Preset 10k Ω B	2
VR501, 502	EWKG7A063A54	Volume 50k Ω A	1
VR503	EVHFDA528G54	Balance 50k Ω G	1
VR504, 505	EWKEUA063015	Tone 100k Ω C	1
VR506, 507	EWKEUA063015	Tone 100k Ω C	1
VR801	EVTS3MA00B24	Preset 20k Ω B	1
VR802	EVTS3MA00B14	Preset 10k Ω B	1
VR803	EVTS6AA00B53	Preset 5k Ω B	1
VR805, 806	EVTS3MA00B52	Preset 500 Ω B	2
VR807, 808	EVTS3MA00B54	Preset 50k Ω B	2
VARIABLE CAPACITORS			
CT101, 102	ECV1ZW10X53N	Trimmer	2
CT103, 104	SCVCTY211D31	Trimmer	1
SWITCHES			
S001, 002	SSP54	Tact	2
S003 ~ 017	SSP58	Tact	15
S1-1, 1-2 Δ	ESB70294	Power	1
S2 Δ	ESE37205	Voltage Selector	1
S401-1, 401-2	SSH122	Mic Selector	1
S701-1, 701-2	SSH120	Speaker Selector	1
S801	SSS102	WDS	1
S802	SSR160	Tape Selector	1
ST1 ~ 14	ESD81575	Rec/Play SW	1
SF, S201, 202	SSH716	Function	1
501, 502, 801			
TUNER			
Z101	SLAA4W1-3	FM RF Tuner	1
CRYSTAL			
X001	SVCA9000NRN	Crystal	1

REPLACEMENT PART LIST

Ref. No.	Part No.	Description	Per Set (pcs.)
PACKINGS			
PA1	SPN4282	Carton Box	1
PA2	SPN4342	Pad, L	1
PA3	SPN4344	Pad, R	1
PA4	SPP130	Poly Cover	1
OTHERS			
1	SQX50280	Instruction Book	1
2	UM-3DE	Battery	4

Numbering System of Resistor



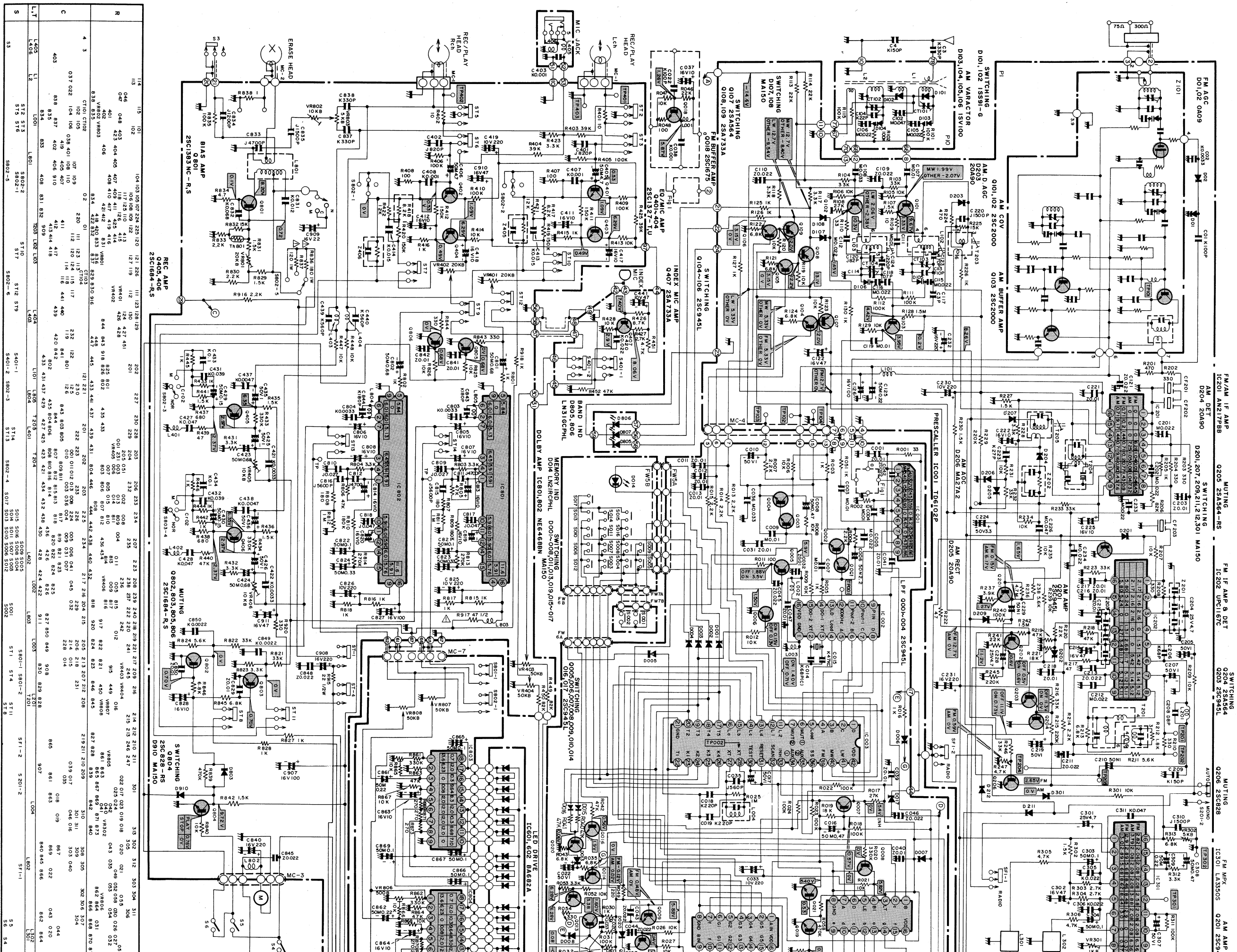
Ref. No.	Part No.	Description	Per Set (pcs.)
RESISTORS			
R001	ERD25FJ330	33Ω 1/4W	1
R002	ERD25FJ103	10kΩ 1/4W	1
R003	ERD25FJ102	1kΩ 1/4W	1
R004	ERD25FJ222	2.2kΩ 1/4W	1
R005	ERD25FJ102	1kΩ 1/4W	1
R006	ERD25FJ103	10kΩ 1/4W	1
R007	ERD25FJ222	2.2kΩ 1/4W	1
R008, 009	ERD25FJ103	10kΩ 1/4W	2
R010	ERD25TJ223	22kΩ 1/4W	1
R011	ERD25FJ101	100Ω 1/4W	1
R012	ERD25FJ103	10kΩ 1/4W	1
R013, 014	ERD25FJ222	2.2kΩ 1/4W	2
R015	ERD25FJ222	2.2kΩ 1/4W	1
R016	ERD25FJ102	1kΩ 1/4W	1
R017	ERD25TJ273	27kΩ 1/4W	1
R018	ERD25TJ104	100kΩ 1/4W	1
R019	ERD25TJ183	18kΩ 1/4W	1
R020	ERD25TJ334	330kΩ 1/4W	1
R021	ERD25FJ103	10kΩ 1/4W	1
R022	ERD25TJ104	100kΩ 1/4W	1
R023, 024	ERD25TJ104	100kΩ 1/4W	2
R025	ERD25TJ105	1MΩ 1/4W	1
R026	ERD25FJ103	10kΩ 1/4W	1
R027	ERD25FJ103	10kΩ 1/4W	1
R029	ERD25FJ103	10kΩ 1/4W	1
R030	ERD25FJ102	1kΩ 1/4W	1
R031, 032	ERD25TJ104	100kΩ 1/4W	2
R033	ERD25FJ102	1kΩ 1/4W	1
R034	ERD25FJ103	10kΩ 1/4W	1
R035	ERD25FJ682	6.8kΩ 1/4W	1
R037	ERD25FJ222	2.2kΩ 1/4W	1
R040, 041	ERD25TJ473	47kΩ 1/4W	2
R042, 043	ERD25TJ473	47kΩ 1/4W	2
R044	ERD25FJ220	22Ω 1/4W	1

REPLACEMENT PART LIST

Ref. No.	Part No.	Description	Per Set (pcs.)
R045	ERD25FJ102	1kΩ 1/4W	1
R046	ERD25TJ223	22kΩ 1/4W	1
R047	ERD25FJ103	10kΩ 1/4W	1
R048	ERD25FJ101	100Ω 1/4W	1
R049	ERD25FJ221	220Ω 1/4W	1
R050	ERD25TJ223	22kΩ 1/4W	1
R051	ERD25FJ102	1kΩ 1/4W	1
R052	ERD25FJ103	10kΩ 1/4W	1
R053	ERD25FJ332	3.3kΩ 1/4W	1
R054	ERD25FJ331	330Ω 1/4W	1
R055	ERD25TJ224	220kΩ 1/4W	1
R056, 057	ERD25TJ474	470kΩ 1/4W	2
R058	ERD25TJ474	470kΩ 1/4W	1
R059	ERD25TJ104	100kΩ 1/4W	1
R101, 102	ERD25TJ104	100kΩ 1/4W	2
R103, 104	ERD25TJ333	33kΩ 1/4W	2
R105, 106	ERD25FJ103	10kΩ 1/4W	2
R107	ERD25FJ152	1.5kΩ 1/4W	1
R108	ERD25FJ272	2.7kΩ 1/4W	1
R109	ERD25FJ100	10Ω 1/4W	1
R110	ERD25FJ330	33Ω 1/4W	1
R111, 112	ERD25TJ104	100kΩ 1/4W	2
R113, 114	ERD25TJ223	22kΩ 1/4W	2
R115	ERD25TJ104	100kΩ 1/4W	1
R117, 118	ERD25FJ332	3.3kΩ 1/4W	2
R119, 120	ERD25FJ103	10kΩ 1/4W	2
R121, 122	ERD25FJ682	6.8kΩ 1/4W	2
R123	ERD25FJ103	10kΩ 1/4W	1
R124	ERD25FJ682	6.8kΩ 1/4W	1
R125, 126	ERD25FJ102	1kΩ 1/4W	2
R127	ERD25FJ102	1kΩ 1/4W	1
R128	ERD25TJ155	1.5MΩ 1/4W	1
R129	ERD25FJ103	10kΩ 1/4W	1
R130	ERD25FJ102	1kΩ 1/4W	1
R201	ERD25FJ471	470Ω 1/4W	1
R202, 203	ERD25FJ331	330Ω 1/4W	2
R204	ERD25FJ331	330Ω 1/4W	1
R205	ERD25FJ102	1kΩ 1/4W	1
R206	ERD25FJ822	8.2kΩ 1/4W	1
R207	ERD25FJ103	10kΩ 1/4W	1
R208	ERD25FJ331	330Ω 1/4W	1
R209	ERD25FJ103	10kΩ 1/4W	1
R210	ERD25FJ331	330Ω 1/4W	1
R211	ERD25FJ562	5.6kΩ 1/4W	1
R212	ERD25FJ182	1.8kΩ 1/4W	1
R213	ERD25FJ682	6.8kΩ 1/4W	1
R214	ERD25FJ222	2.2kΩ 1/4W	1
R215	ERD25TJ224	220kΩ 1/4W	1
R216	ERD25TJ333	33kΩ 1/4W	1
R217	ERQ12HJ470	47Ω 1/2W	1
R218, 219	ERD25TJ473	47kΩ 1/4W	2
R220	ERD25TJ223	22kΩ 1/4W	1
R221	ERD25TJ183	18kΩ 1/4W	1
R222	ERD25FJ470	47Ω 1/4W	1

Ref. No.	Part No.	Description	Per Set (pcs.)
R223	ERD25TJ333	33kΩ 1/4W	1
R224	ERD25FJ471	470Ω 1/4W	1
R225	ERD25TJ153	15kΩ 1/4W	1
R226	ERD25FJ102	1kΩ 1/4W	1
R227	ERD25FJ152	1.5kΩ 1/4W	1
R228	ERD25FJ332	3.3kΩ 1/4W	1
R229	ERD25TJ224	220kΩ 1/4W	1
R230	ERD25FJ152	1.5kΩ 1/4W	1
R231	ERD25FJ103	10kΩ 1/4W	1
R232, 233	ERD25TJ333	33kΩ 1/4W	2
R234, 235	ERD25FJ103	10kΩ 1/4W	2
R236	ERD25TJ475	4.7MΩ 1/4W	1
R237	ERD25FJ392	3.9kΩ 1/4W	1
R238	ERD25FJ562	5.6kΩ 1/4W	1
R239	ERD25FJ103	10kΩ 1/4W	1
R240	ERD25TJ104	100kΩ 1/4W	1
R241	ERD25TJ223	22kΩ 1/4W	1
R242	ERD25TJ155	1.5MΩ 1/4W	1
R243	ERD25FJ681	680Ω 1/4W	1
R245	ERD25TJ224	220kΩ 1/4W	1
R246	ERD25TJ333	33kΩ 1/4W	1
R247	ERD25FJ472	4.7kΩ 1/4W	1
R301	ERD25FJ103	10kΩ 1/4W	1
R302	ERD25FJ152	1.5kΩ 1/4W	1
R303, 304	ERD25FJ272	2.7kΩ 1/4W	2
R305, 306	ERD25FJ472	4.7kΩ 1/4W	2
R307, 308	ERD25FJ103	10kΩ 1/4W	2
R309	ERD25FJ102	1kΩ 1/4W	1
R310	ERD25FJ103	10kΩ 1/4W	1
R311	ERD25TJ104	100kΩ 1/4W	1
R312	ERD25FJ332	3.3kΩ 1/4W	1
R313	ERD25FJ682	6.8kΩ 1/4W	1
R314	ERD25FJ332	3.3kΩ 1/4W	1
R315, 316	ERD25TJ274	270kΩ 1/4W	2
R401, 402	ERD25FJ100	10Ω 1/4W	2
R403, 404	ERD25TJ393	39kΩ 1/4W	2
R405, 406	ERD25TJ104	100kΩ 1/4W	2
R407, 408	ERD25FJ101	100Ω 1/4W	2
R409, 410	ERD25TJ104	100kΩ 1/4W	2
R411, 412	ERD25TJ154	150kΩ 1/4W	2
R413, 414	ERD25FJ103	10kΩ 1/4W	2
R415, 416	ERD25FJ102	1kΩ 1/4W	2
R417, 418	ERD25FJ822	8.2kΩ 1/4W	2
R419, 420	ERD25TJ154	150kΩ 1/4W	2
R421, 422	ERD25TJ123	12kΩ 1/4W	2
R423	ERD25FJ332	3.3kΩ 1/4W	1
R425	ERD25TJ393	39kΩ 1/4W	1
R426, 427	ERD25FJ272	2.7kΩ 1/4W	2
R428	ERD25FJ103	10kΩ 1/4W	1
R431, 432	ERD25FJ332	3.3kΩ 1/4W	2
R433, 434	ERD25TJ334	330kΩ 1/4W	2
R435, 436	ERD25FJ152	1.5kΩ 1/4W	2
R437, 438	ERD25FJ681	680Ω 1/4W	2
R439, 440	ERD25FJ470	47Ω 1/4W	2

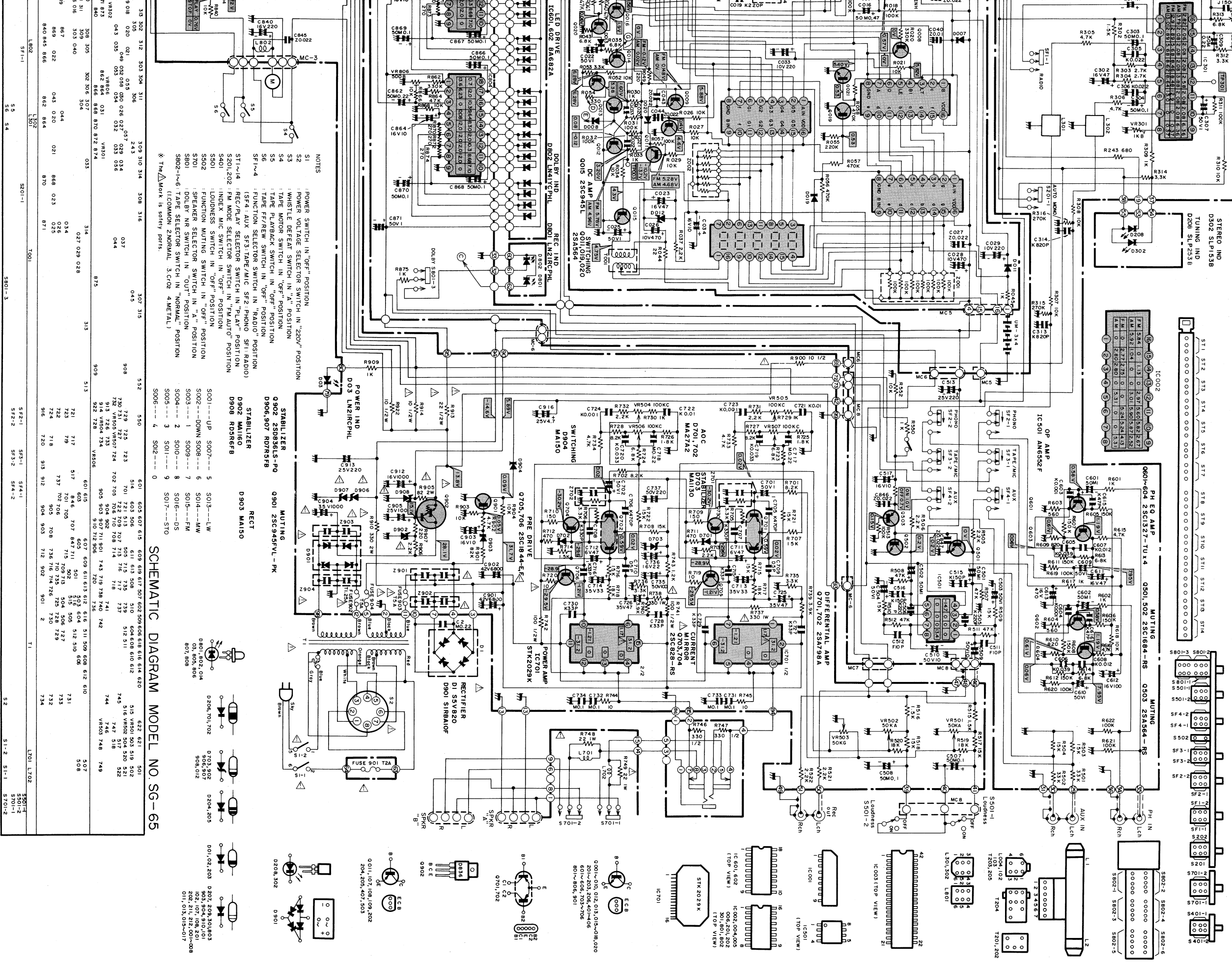
SCHEMATIC DIAG



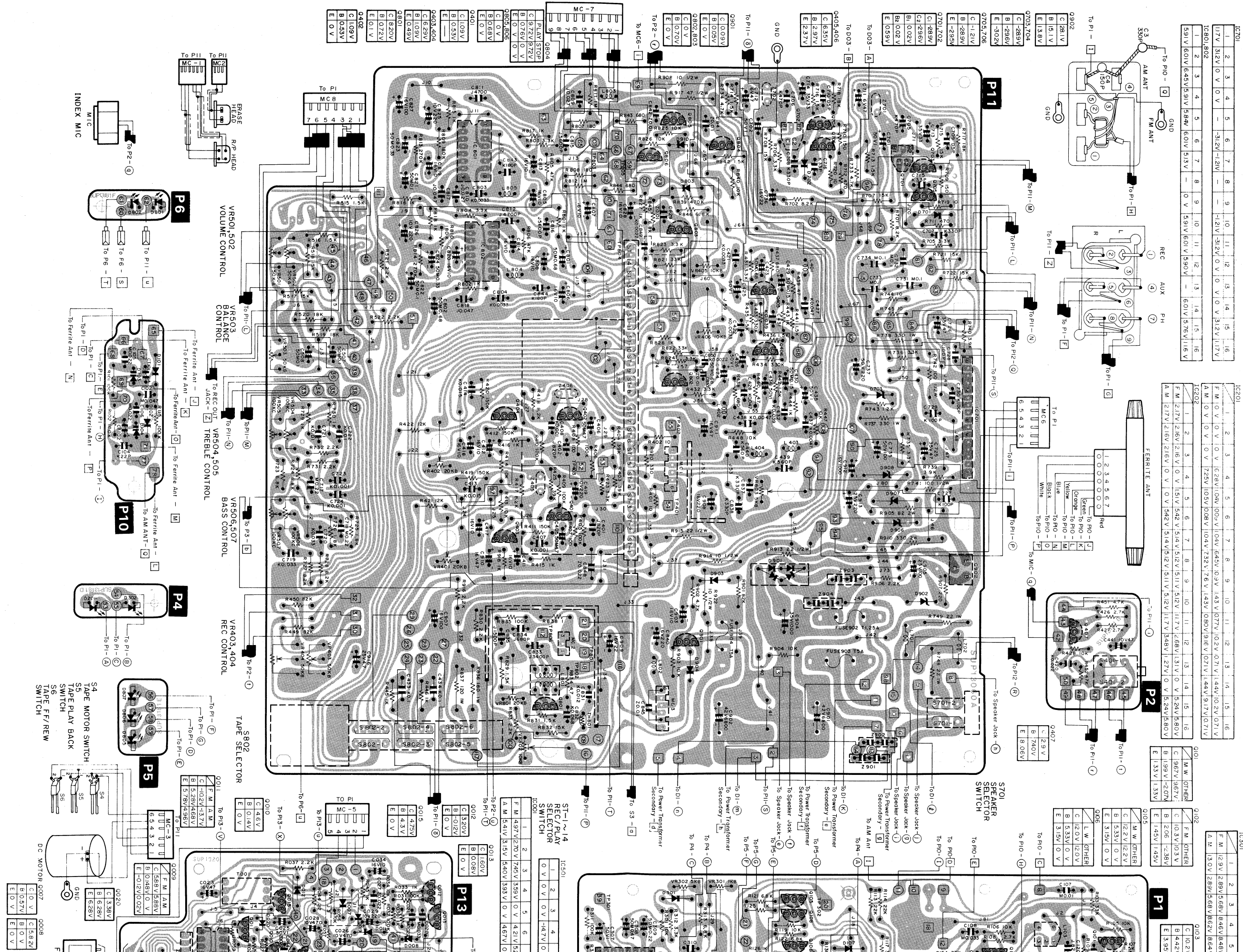
***This diagram might be modified without notice for further development of technology.**

OMATIC DIAGRAM

FM MPX AM AMP FM AMP
IC301 LA3505 Q201 25C945L Q202 25C0844-E.F



CIRCUIT BOARD AND WIRING



IC201

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
117V	312V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
591V	601V	645V	591V	584V	601V	513V	0 V	551V	601V	550V	0 V	601V	578V	116V	0 V

IC202

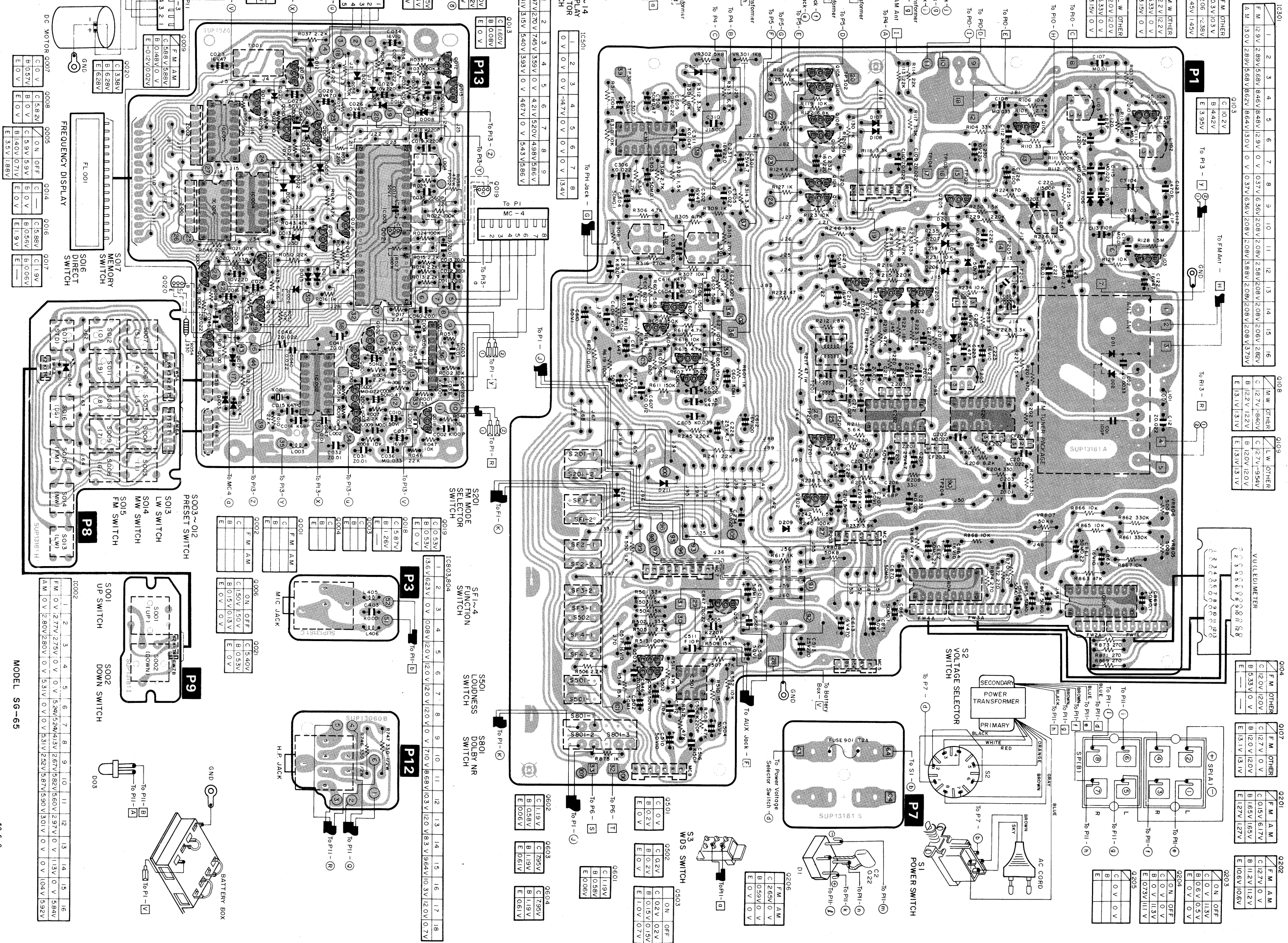
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
F M	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
F M	217V	216V	216V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V

IC203

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
F M	129V	289V	568V	846V	848V	848V	848V	848V	848V	848V	848V	848V	848V	848V	848V
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
F M	129V	289V	568V	846V	848V	848V	848V	848V	848V	848V	848V	848V	848V	848V	848V

This diagram might be modified without notice for further development of technology.

AND WIRING CONNECTION



REPLACEMENT PART LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Ref. No.	Part No.	Description	Per Set (pcs.)
R441, 442	ERD25FJ152	1.5kΩ 1/4W	2	R744, 745	ERD25FJ100	10Ω 1/4W	2
R443, 444	ERD25FJ102	1kΩ 1/4W	2	R746, 747	ERD50FJ331	330Ω 1/2W	2
R445, 446	ERD25FJ102	1kΩ 1/4W	2	R748, 749 Δ	ERG1ANJP220S	22Ω 1W	2
R447, 448	ERD25FJ103	10kΩ 1/4W	2	R801, 802	ERD25FJ102	1kΩ 1/4W	2
R449, 450	ERD25TJ823	82kΩ 1/4W	2	R803, 804	ERD25FJ332	3.3kΩ 1/4W	2
R451	ERD25FJ472	4.7kΩ 1/4W	1	R805, 806	ERD25TJ473	47kΩ 1/4W	2
R452	ERD25TJ473	47kΩ 1/4W	1	R807, 808	ERD25FJ181	180Ω 1/4W	2
R501, 502	ERD25TJ333	33kΩ 1/4W	2	R809, 810	ERD25TJ184	180kΩ 1/4W	2
R503, 504	ERD25TJ153	15kΩ 1/4W	2	R811, 812	ERD25TJ105	1MΩ 1/4W	2
R505, 506	ERD25FJ222	2.2kΩ 1/4W	2	R813, 814	ERD25TJ274	270kΩ 1/4W	2
R507, 508	ERD25TJ473	47kΩ 1/4W	2	R815, 816	ERD25FJ102	1kΩ 1/4W	2
R509, 510	ERD25TJ153	15kΩ 1/4W	2	R817, 818	ERD25FJ102	1kΩ 1/4W	2
R511, 512	ERD25TJ473	47kΩ 1/4W	2	R821, 822	ERD25TJ333	33kΩ 1/4W	2
R513	ERD25TJ104	100kΩ 1/4W	1	R823, 824	ERD25FJ332	3.3kΩ 1/4W	2
R514	ERD25TJ153	15kΩ 1/4W	1	R825, 826	ERD25FJ103	10kΩ 1/4W	2
R515, 516	ERD25FJ152	1.5kΩ 1/4W	2	R827, 828	ERD25FJ102	1kΩ 1/4W	2
R517, 518	ERD25TJ153	15kΩ 1/4W	2	R829	ERD25FJ152	1.5kΩ 1/4W	1
R519, 520	ERD25TJ183	18kΩ 1/4W	2	R830	ERD25FJ222	2.2kΩ 1/4W	1
R521, 522	ERD25FJ222	2.2kΩ 1/4W	2	R831	ERD25FJ152	1.5kΩ 1/4W	1
R550	ERD25FJ102	1kΩ 1/4W	1	R832	ERD25TJ153	15kΩ 1/4W	1
R552	ERD25FJ103	10kΩ 1/4W	1	R833	ERD25TJ222	2.2kΩ 1/4W	1
R601, 602	ERD25FJ102	1kΩ 1/4W	2	R834	ERD25FJ4R7	4.7Ω 1/4W	1
R603, 604	ERD25FJ561	560Ω 1/4W	2	R835	ERD25TJ104	100kΩ 1/4W	1
R605, 606	ERD25TJ154	150kΩ 1/4W	2	R836 Δ	ERG1ANJP181S	180Ω 1W	1
R607, 608	ERD25TJ154	150kΩ 1/4W	2	R837 Δ	ERG1ANJP121S	120Ω 1W	1
R609, 610	ERD25FJ821	820Ω 1/4W	2	R838	ERD25FJ1R0	1Ω 1/4W	1
R611, 612	ERD25TJ154	150kΩ 1/4W	2	R839	ERD25TJ474	470kΩ 1/4W	1
R613, 614	ERD25FJ682	6.8kΩ 1/4W	2	R840	ERD25FJ103	10kΩ 1/4W	1
R615, 616	ERD25FJ472	4.7kΩ 1/4W	2	R842	ERD25FJ152	1.5kΩ 1/4W	1
R617	ERD25FJ102	1kΩ 1/4W	1	R843, 844	ERD25FJ331	330Ω 1/4W	2
R618	ERD25FJ103	10kΩ 1/4W	1	R845, 846	ERD25FJ682	6.8kΩ 1/4W	2
R619, 620	ERD25TJ104	100kΩ 1/4W	2	R861, 862	ERD25TJ334	330kΩ 1/4W	2
R621, 622	ERD25TJ104	100kΩ 1/4W	2	R863, 864	ERD25TJ473	47kΩ 1/4W	2
R701, 702	ERD25FJ822	8.2kΩ 1/4W	2	R865, 866	ERD25TJ103	10kΩ 1/4W	2
R705, 706	ERD25FJ332	3.3kΩ 1/4W	2	R867, 868	ERD25TJ103	10kΩ 1/4W	2
R707, 708	ERD25TJ153	15kΩ 1/4W	2	R869, 870	ERD25FJ271	270Ω 1/4W	2
R709, 710	ERD25FJ151	150Ω 1/4W	2	R871, 872	ERD25FJ271	270Ω 1/4W	2
R711, 712	ERD25FJ471	470Ω 1/4W	2	R873, 874	ERD25FJ271	270Ω 1/4W	2
R713, 714	ERD25FJ152	1.5kΩ 1/4W	2	R875	ERD25FJ102	1kΩ 1/4W	1
R715, 716	ERD25TJ153	15kΩ 1/4W	2	R901	ERD25TJ823	82kΩ 1/4W	1
R717, 718	ERD25TJ183	18kΩ 1/4W	2	R902	ERD25FJ472	4.7kΩ 1/4W	1
R719, 720	ERD25FJ100	10Ω 1/4W	2	R903, 904	ERD25FJ103	10kΩ 1/4W	2
R721, 722	ERD25TJ153	15kΩ 1/4W	2	R905 Δ	ERQ2CJ820	82Ω 2W	1
R723, 724	ERD25FJ682	6.8kΩ 1/4W	2	R906	ERD25FJ222	2.2kΩ 1/4W	1
R725, 726	ERD25FJ182	1.8kΩ 1/4W	2	R907	ERD25FJ221	220Ω 1/4W	1
R727, 728	ERD25FJ822	8.2kΩ 1/4W	2	R908 Δ	ERQ12HJ100	10Ω 1/2W	1
R729, 730	ERD25FJ102	1kΩ 1/4W	2	R909	ERD25FJ102	1kΩ 1/4W	1
R731, 732	ERD25FJ222	2.2kΩ 1/4W	2	R910 Δ	ERQ2CJ331	330Ω 2W	1
R733, 734	ERD25FJ472	4.7kΩ 1/4W	2	R913 Δ	ERQ12HJ220	22Ω 1/2W	1
R735, 736	ERD25FJ332	3.3kΩ 1/4W	2	R914 Δ	ERQ12HJ100	10Ω 1/2W	1
R737, 738 Δ	ERG1ANJP331S	330Ω 1W	2	R915 Δ	ERQ12HJ220	22Ω 1/2W	1
R739, 740	ERD25FJ392	3.9kΩ 1/4W	2	R916	ERD25FJ222	2.2kΩ 1/4W	1
R741, 742 Δ	ERQ12HJ101	100Ω 1/2W	2	R917 Δ	ERQ12HJ470	47Ω 1/2W	1
R743	ERD25FJ122	1.2kΩ 1/4W	1	R918	ERD25FJ102	1kΩ 1/4W	1

REPLACEMENT PART LIST

Ref. No.	Part No.	Description	Per Set (pcs.)
R920	ERD25FJ331	330Ω 1/4W	1
R922 Δ	ERQ12HJ100	10Ω 1/2W	1

Numbering System of Capacitor

Type	Voltage	Value	Tolerance
Four Letters	One or Two Letters	Two to Five Letters	One or Two Letters
Example: E C K D 1 H 3 3 3 M D			
Capacitor Type			Tolerance
ECCD: Temperature Compensating Ceramic			C: ±0.25pF
ECKD: High Dielectric Constant Ceramic			D: ±0.5pF
ECOM: Polyester			F: ±1pF
ECQS: Polystyrene Film			J: ±5%
ECFD: Semiconductor Ceramic			K: ±10%
ECEA: Electrolytic			M: ±20%
ECEB: Electrolytic			P: +100, -0%
ECET: Electrolytic			Z: +80, -20%
ECSF: Tantalum			

Ref. No.	Part No.	Description	Per Set (pcs.)
CAPACITORS			
C2	ECQM1H224MZ	0.22μF 50V	1
C3	ECCD1H331K	330 pF 50V	1
C4	ECCD1H151K	150 pF 50V	1
C01	ECCD1H101K	100 pF 50V	1
C02	ECKD1H332KB	0.0033μF 50V	1
C001	ECKD1H103ZF	0.01μF 50V	1
C002	ECCD1H101K	100 pF 50V	1
C003, 004	ECFD1E103MD	0.01μF 25V	2
C005	ECFD1E223MD	0.022μF 25V	1
C006	ECEA50N2R2	2.2μF 50V	1
C007	ECFD1E103MD	0.01μF 25V	1
C008	ECEA50NR47	0.47μF 50V	1
C009	ECFD1E103MD	0.01μF 25V	1
C010	ECEA50Z1	1μF 50V	1
C011, 012	ECKD1H103ZF	0.01μF 50V	2
C013	ECKD1H103ZF	0.01μF 50V	1
C014	ECCD1H680KC	68 pF 50V	1
C015	ECCD1H470KC	47 pF 50V	1
C016	ECEA50MR47R	0.47μF 50V	1
C017	ECEA50Z1	1μF 50V	1
C018, 019	ECKD1H221KB	220 pF 50V	2
C020	ECFD1E333MD	0.033μF 25V	1
C021	ECFD1E223MD	0.022μF 25V	1
C022	ECEA50Z1	1μF 50V	1
C023	ECEA1ES470	47μF 25V	1
C025	ECEA50Z1	1μF 50V	1
C026	ECEA1AS471	470μF 10V	1
C027	ECKD1H223ZF	0.022μF 50V	1
C028	ECEA1AS471	470μF 10V	1
C029	ECEA1AS221	220μF 10V	1
C031, 032	ECKD1H103ZF	0.01μF 50V	2
C033	ECEA1AS221	220μF 10V	1
C034	ECEA1HS100	10μF 50V	1

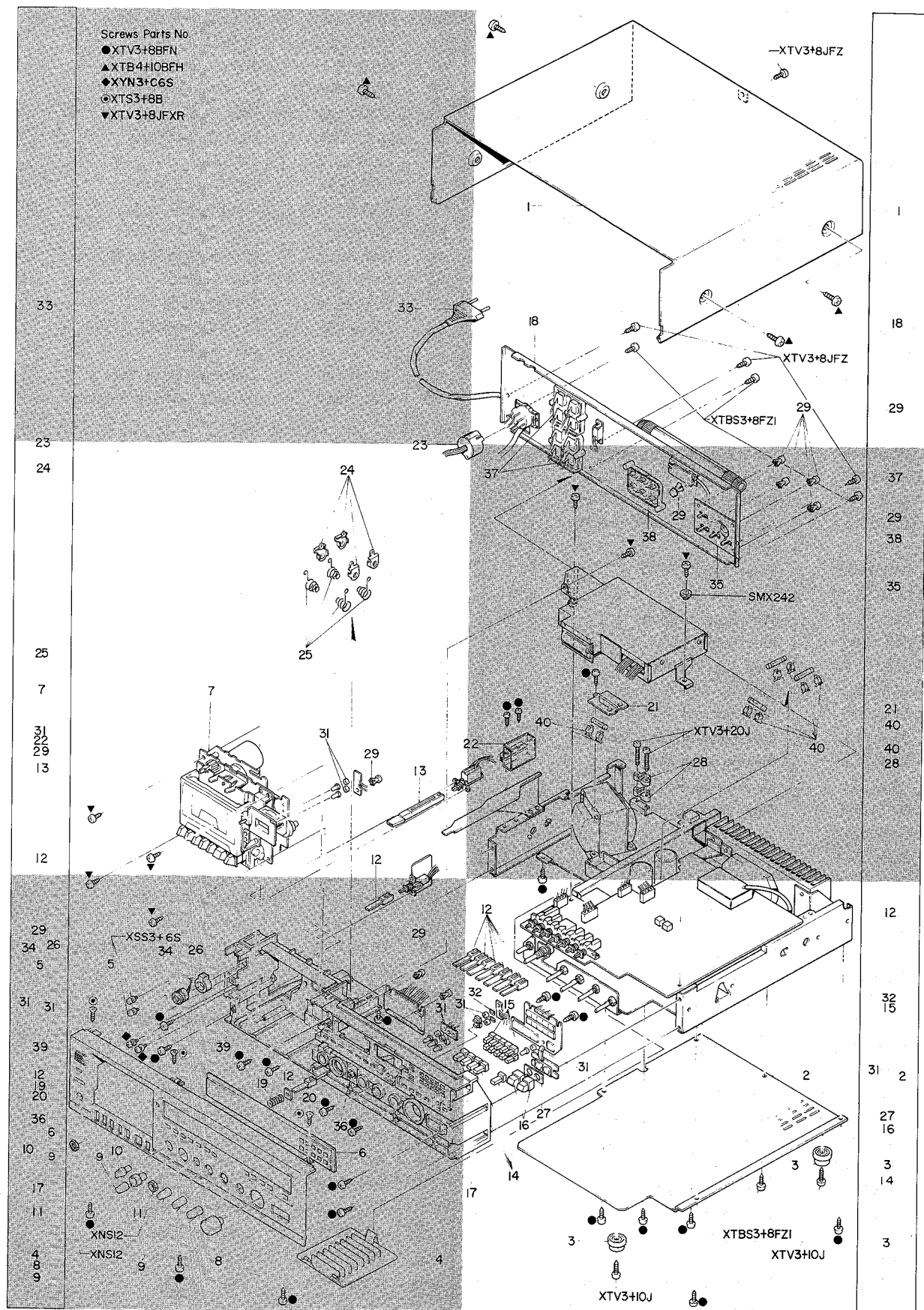
REPLACEMENT PART LIST

Ref. No.	Part No.	Description	Per Set (pcs.)	Ref. No.	Part No.	Description	Per Set (pcs.)
C705, 706	ECKD1H471KB	470 pF 50V	2	C903	ECEA1HS100	10μF 50V	1
C707, 708	ECKD1H331KB	330 pF 50V	2	C904	ECEA1VS102	0.001μF 35V	1
C709, 710	ECCD1H050D	5 pF 50V	2	C905	ECEA1ES101	100μF 25V	1
C711, 712	ECEA1AS470	47μF 10V	2	C907	ECEA1ES101	100μF 25V	1
C713, 714	ECEA1VS330	33μF 35V	2	C908	ECEA1CS221	220μF 16V	1
C715, 716	ECCD1H330K	33 pF 50V	2	C909	ECEA1ES220	22μF 25V	1
C717, 718	ECQM1H224MZ	0.22μF 50V	2	C910, 911	ECEA1ES470	47μF 25V	2
C719, 720	ECQM1H333KZ	0.033μF 50V	2	C912	ECEA1CS102	0.001μF 16V	1
C721, 722	ECQM1H103KZ	0.01μF 50V	2	C913	ECEA1ES221	220μF 25V	1
C723, 724	ECQM1H102KZ	0.001μF 50V	2	C916	ECEA25Z4R7	4.7μF 25V	1
C725, 726	ECEA1HS470	47μF 50V	2				
C727, 728	ECCD1H101K	100 pF 50V	2				
C729, 730	ECCD1H101K	100 pF 50V	2				
C731, 732	ECQM1H104MZ	0.1μF 50V	2				
C733, 734	ECQM1H104MZ	0.1μF 50V	2				
C735	ECEA1HS101	100μF 50V	1				
C736	ECEA1ES220	22μF 25V	1				
C737	ECEA1HS221	220μF 50V	1				
C801, 802	ECEA50MR68R	0.68μF 50V	2				
C803, 804	ECQM1H332KZ	0.0033μF 50V	2				
C805, 806	ECEA1HS100	10μF 50V	2				
C807, 808	ECEA1HS100	10μF 50V	2				
C809, 810	ECQM1H273JZ	0.027μF 50V	2				
C811, 812	ECQS1472JZ	4700 pF 125V	2				
C813, 814	ECEA1HS100	10μF 50V	2				
C815, 816	ECQS1562JZ	5600 pF 125V	2				
C817, 818	ECQM1H473JZ	0.047μF 50V	2				
C819, 820	ECEA1HS100	10μF 50V	2				
C821, 822	ECEA50MR1R	0.1μF 50V	2				
C823, 824	ECEA50MR33R	0.33μF 50V	2				
C825, 826	ECEA1AS221	220μF 10V	2				
C827	ECEA1ES101	100μF 25V	1				
C828	ECEA1HS100	10μF 50V	1				
C829, 830	ECKD1H103ZF	0.01μF 50V	2				
C831	ECQM1H123KZ	0.012μF 50V	1				
C832	ECQM1H683KS	0.068μF 50V	1				
C833	ECQS1392JZ	3900 pF 125V	1				
C834	ECQS1681JZ	680 pF 125V	1				
C835	ECQS1152JZ	1500 pF 125V	1				
C837, 838	ECKD1H331KB	330 pF 50V	2				
C840	ECEA1CS221	220μF 16V	1				
C841, 842	ECKD1H103ZF	0.01μF 50V	2				
C843, 844	ECKD1H181KB	180 pF 50V	2				
C845	ECKD1H103ZF	0.01μF 50V	1				
C846, 847	ECKD1H223ZF	0.022μF 50V	2				
C848	ECKD1H223ZF	0.022μF 50V	1				
C849, 850	ECKD1H222KB	0.0022μF 50V	2				
C861, 862	ECEA50MR22R	0.22μF 50V	2				
C863, 864	ECEA1HS100	10μF 50V	2				
C865, 866	ECEA50MR1R	0.1μF 50V	2				
C867, 868	ECEA50MR1R	0.1μF 50V	2				
C869, 870	ECEA50MR1R	0.1μF 50V	2				
C871	ECEA50Z1	1μF 50V	1				
C901, 902	ECET42R682S	6800μF 42V	2				

REPLACEMENT PARTS LIST OF CABINET AND CHASSIS

Ref. No.	Part No.	Description	Per Set (pcs.)	Ref. No.	Part No.	Description	Per Set (pcs.)
1	SKA3583	Metal Cabinet	1				
2	SYU434	Bottom Board Ass'y	1				
3	SKL52	Foot	2				
4	SKK108	Battery Cover	1				
5	SYP520	Escutcheon Ass'y	1				
6	SGE1276	Transparent Cover	1				
7	SYE820	Cassette Lid Ass'y	1				
8	SBN1010	Knob, Volume	1				
9	SBN1006	Knob, Control	4				
10	SBN990-1	Knob, Switch	1				
11	SBN1016	Knob, REC	1				
12	SBC458	Knob, Push	9				
13	SYE806	Knob, Power	1				
14	SBC462	Button A, Reset	5				
15	SBC462-1	Button B, Preset	10				
16	SBC464	Button, Up/Down	2				
17	SXE212	Front Chassis Ass'y	1				
18	SMN1344-1	Jack Angle	1				
18	SMN1344-3	Jack Angle (for DEMKO)	1				
19	SUS374	Spring	1				
20	SUD274	Spacer	1				
21	SMX230	Insulator Cover	1				
22	SUV216	Power Switch Cover	1				
23	SUV172	Switch Cover	1				
24	SJC128	Battery Terminal	4				
25	SJC518	Battery Spring	4				
26	SHG9170	Mic Rubber	1				
27	SHS9274	Button Cover	1				
28	SHR134	Cord Clamp	2				
29	RHR969ZA	Latch	6				
30	RHR9112	Latch	2				
31	SJY5162	Spacer, LED	8				
32	SUD222	Spacer, LED	2				
33	SJA138	Power Cord	1				
34	SJM118	Condenser Mic	1				
35	SJF4502-1	Terminal Plate, Ant	1				
36	XCJS6PE12	Jack, Head Phone	1				
37	SJF9410	Jack, Speaker	2				
38	SJF3604	Jack, RCA	1				
39	XCJS6PA4	Jack, Mic	1				
40	SJF110	Fuse Holder	8				

PARTS LOCATION OF CABINET AND CHASSIS



REPLACEMENT PARTS LIST OF CASSETTE TAPE DECK (QUN1939)

Ref. No.	Part No.	Description	Per Set (pcs.)	Ref. No.	Part No.	Description	Per Set (pcs.)
1	QMN2554	Operation Lever Shaft	1	55	QMZ1240	Sub Head Base Plate	1
2	QSB0253M	Leaf Switch	3	56	QML3591	Brake Arm	1
3	SMQ3720	Eject Button Ass'y	1	57	QBT1597	Brake Arm Spring	1
4	SMQ3722	Record Button Ass'y	1	58	QMA3858	Head Adjustment Plate	1
5	SMQ3724	Rewind/Review Button Ass'y	1	59	QDG1201	Main Gear	1
6	SMQ3726	Fast Forward/Cue Button Ass'y	1	60	QBN1745	Main Gear Spring	1
7	SMQ3728	Playback Button Ass'y	1	61	QDG1202	Sub Gear	1
8	SMQ3730	Stop Button Ass'y	1	62	QBN1744	Sub Gear Spring	1
9	SMQ3732	Pause Button Ass'y	1	63	QML3581	Sub Control Lever	1
10	QBP1874	Cassette Pressure Spring	1	64	QML3583	Main Control Lever	1
11	QDR1139	Supply Reel Table	1	65	QML3584	Record Operation Lever	1
12	QBC1372	Reel Table Spring	1	66	QMR1820	Record Rod	1
13	QMB1336	Supply Reel Table Hub	1	67	QMR1824	Control Rod	1
14	QBW2008	Poly Washer	7	68	QXL1360	Record/Playback Selection Arm Ass'y	1
15	QBW2012	Poly Washer	3	69	QBN1739	Selection Lever Spring	1
16	QXD1143	Take up Reel Table Ass'y	1	70	QML3580	Record/Playback Selection Lever	1
17	QML3594	Auto Stop Release Arm	1	71	QBT1895	Record/Playback Selection Lever Spring	1
18	QBN1746	Auto Stop Lever Spring	1	72	QML3582	Pause Lock Lever	1
19	QML3604	Auto Stop Driving Lever	1	73	QBT1896	Lever Release Spring	1
20	QML3605	Auto Stop Detection Lever	1	74	QBS1128	Lock Pin	1
21	QMR1821	Auto Stop Connection Rod	1	75	QBC1357	Lock Pin Pressure Spring	1
22	QBT1682	Auto Stop Connection Rod Spring	1	76	QMZ1239	Flywheel Thrust Retainer	1
23	QML3603	Erase Safety Lever	1	77	QXF0164	Flywheel Ass'y	1
24	QMR1822	Eject Rod	1	78	QBW2049	Poly Washer	1
25	QBN1747	Connection Spring	1	79	QXP0607	Fast Forward Connection Pulley Ass'y	1
26	QXL1382	Idler Lever Ass'y	1	80	QXG1047	Take up Gear Ass'y	1
27	QXI0111	Take up Idler Ass'y	1	81	QDP1823	Connection Pulley	1
28	QBT1893	Take up Idler Spring	1	82	QDG1199	Auto Stop Gear	1
29	QXL1383	Fast Forward Arm Ass'y	1	83	QDG1200	Cam Gear	1
30	QXI0113	Fast Forward Idler Ass'y	1	84	MMI6A2HKPD	Motor	1
31	QXI0112	Rewind Idler Ass'y	1	85	QDP1831A	Motor Pulley	1
32	QXL1355	Main Lever Ass'y	1	86	QBG1689	Rubber Cushion	2
33	QBT1894	Main Lever Spring	1	87	QDB0281	Capstan Belt	1
34	QML3592	Change Lever	1	88	QDB0273	Fast Forward Belt	1
35	QBN1741	Change Lever Spring	1	89	QDB0274	Take up Belt	1
36	QML3586	Head Base Plate Lift Lever	1	90	QBP1875	Obstruction Lever Spring	1
37	QXL1354	Sub Lever Ass'y	1	91	QMR1823	Obstruction Rod	1
38	QML3588	Fast Forward Lever	1	92	QML3593	Lock Arm	1
39	QBN1748	Fast Forward Spring	1	93	QBT1597	Obstruction Rod Spring	1
40	QDP1828	Fast Forward Pulley	1	94	QBW2026	Washer	1
41	QXL1381	Pressure Roller Ass'y	1	100	SMQ3238	Tape Counter	1
42	QBN1742	Pressure Roller Release Spring	1	101	SMQ1988	Counter Belt	1
43	QBN1743	Pressure Roller Spring	1	102	SBC460	Reset Button	1
44	QWY4122Z	Record/Playback Head	1	103	QDG1102	Holder Gear	2
45	QWY2138Z	Erase Head	1	104	SEE1280	Reset Button Cover	1
46	QBC1278	Record/Playback Head Spring	1	105	QXH0327	Chassis Cover Ass'y	1
47	QBCA0008	Erase Head Spring	1	106	QKF6015KB	Cassette Holder	1
48	QMZ1241	Head Spacer	1	107	SGE1266	Cassette Plate	1
49	QBN1740	Head Pressure Spring	1	108	QBP1771	Holder Spring	2
50	QMK1840	Head Base Plate	1	109	QBN1749	Eject Spring	1
51	QBT1892	Head Release Spring	1				
52	QMN2550	Roller	1				
53	QBP1873	Head Base Plate Pressure Spring	1				
54	QDK1017	Steel Ball	3				

**EXPLODED VIEW OF CASSETTE TAPE DECK
(QUN1939)**

